

# Mexican Consortium: Proposal to Join CMS

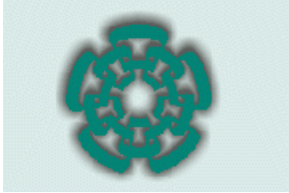


*H. Castilla*

*Presentation to the  
CMS Collaboration Board*

*March 19 , 2004*

# Mexican Consortium:



1. Heriberto Castilla
2. Alberto Sanchez



3. Antonio Morelos



*Facultad de Ciencias Fisico Matematicas*  
**Universidad Autónoma de Puebla**

4. Humberto Salazar



**UNIVERSIDAD  
IBEROAMERICANA**

5. Salvador Carrillo

# Personnel

Group Member	Position	Experience	Start Date	Approx. % FTE
H. Castilla	Prof. (Cinvestav)	D0, UA1	1992	50%
A. Sanchez	Prof. (Cinvestav)	D0, Focus	1998	25-50%
Antonio Morelos	Prof. (IF-UASLP)	SELEX	1993	25-50%
Humberto Salazar	Prof. (FCFM-UAP)	Auger	1998	25-75%
Salvador Carrillo	Prof. (UIA)	Focus	2001	50%
Eduard De La Cruz	Starting (UJAT)	D0	2004	-
Students	...	D0, CMS	2004	50%
Technician		-	2001-03	100%

- New avenue for the short term future (CMS)

- Currently Participating in D0, Focus, SELEX, Auger

- Most of us are doing analysis for our current experiments but ready to work on hardware for CMS, students can join the effort.
    - Some have worked on Collider Physics for quite some time, familiarity with the CMS environment.

- Contribution to the CMS tracker

- We are coordinating efforts with UCSB, we will learn from them. Technician and students with some experience in hardware. Some senior guys are hardware oriented people.
    - Facilities for additional production, testing and probing capacity.

# Scientists

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- Scientific staff

- Prof. H.Castilla

- D0 and UA1 Collider Physics
    - Some D0 Silicon involvement (Run I)

- Prof. A. Sanchez

- D0 and Focus
    - Experience on Fixed Target and Colliders

- Prof. A. Morelos

- Selex
    - Hardware person

- Prof. H. Salazar

- Auger involvement, Water tanks and flyeye hardware, readout and electronics.

- Prof. S. Carrillo

- Focus experience, Electronic calorimeter.

- Prof.(?) Eduard De La Cruz

- Just finishing his Ph.D. in D0.

# Technical Staff

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- Technician, experience with electronics

- Jaime Garcia

- New comer into this area, learns fast.

- Students

- No names yet

- Trained in UCSB and Fermilab for Silicon Tracker activities in Mexico

# Funding

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- **Conacyt** Grant in evaluation (will also fund D0 activities)
  - Support for equipment for CMS tracker work at Cinvestav.
  - Support for physicists and students who will participate in wirebonding and sensor probing in Mexico.
- Existing Conacyt Grant already being used to purchase equipment (~300K USD)
  - Probe Station
  - Wirebonder
  - Cold Box
  - Clean Room adaptation

# Space & Eqpt.

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- Lab available for CMS activities

- Approx. 60 m<sup>2</sup> class 10.000 cleanroom (will be)

- Is available for CMS Tracker effort

- ▶ Probe Station: REL 6100 Cascade/Microtech and accessories

## Equipment Plans

- Wirebonding

- K&S 8060 (The same model that UCSB just purchased). In process, expected by Summer.

- Testing (Cold Box)

- Test stands for hybrid and module testing. In process, UCSB is helping us here. Expected by Summer.

- Clean Room

- Where all the equipment is going to be housed. Expected by Summer.

# Our Proposal

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- Couple our activities and efforts with the US responsibilities (Tracker) in CMS (Training)
- Production
  - Wirebonding, and testing of hybrids and modules
- Probe sensors at Cinvestav (if needed)
  - All the equipment is there.
- Assist in Installation & Commissioning
  - Students and may be Scientists at CERN
- Contribute to offline & analysis



# Summary

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- Mexican Institutions propose to join CMS
- We can make contributions to CMS
  - Share responsibilities and activities with the US Silicon Strip Tracker
  - Additional manpower, space, equipment and production capabilities
  - Some help at CERN for installation and commissioning
  - Hadron collider physics experience